

1653

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/645,835A

DATE: 03/16/2001
TIME: 16:06:50

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3 <110> APPLICANT: Heinrichs, Jon
4 Johnson, Leslie S.
5 Koenig, Scott
6 Adamou, John E.
8 <120> TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
9 Vaccines
11 <130> FILE REFERENCE: 469201-493
13 <140> CURRENT APPLICATION NUMBER: US/09/645,835A
14 <141> CURRENT FILING DATE: 2000-08-25
16 <150> PRIOR APPLICATION NUMBER: U.S. 60/150,750
17 <151> PRIOR FILING DATE: 1999-08-25
19 <160> NUMBER OF SEQ ID NOS: 7
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 2478
25 <212> TYPE: DNA
26 <213> ORGANISM: Streptococcus pyogenes
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31 tatattgatg atagcaagg taaggcaaaa gccctaaaa caaacaatac tgaccaaggc 180
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75 <212> TYPE: PRT
76 <213> ORGANISM: Streptococcus pyogenes
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86 35 40 45
88 Ala Lys Ala Pro Lys Thr Asn Lys Thr Met Asp Gln Ile Ser Ala Glu
89 50 55 60
91 Glu Gly Ile Ser Ala Glu Gln Ile Val Val Lys Ile Thr Asp Gln Gly
92 65 70 75 80
94 Tyr Val Thr Ser His Gly Asp His Tyr His Phe Tyr Asn Gly Lys Val
95 85 90 95
97 Pro Tyr Asp Ala Ile Ile Ser Glu Glu Leu Leu Met Thr Asp Pro Asn
98 100 105 110
100 Tyr Arg Phe Lys Gln Ser Asp Val Ile Asn Glu Ile Leu Asp Gly Tyr
101 115 120 125
103 Val Ile Lys Val Asn Gly Asn Tyr Tyr Val Tyr Leu Lys Pro Gly Ser
104 130 135 140
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107 145 150 155 160
109 Lys Gly Thr Lys Glu Ala Lys Glu Lys Gly Leu Ala Gln Val Ala His
110 165 170 175
112 Leu Ser Lys Lys Glu Val Ala Ala Val Asn Glu Ala Lys Arg Gln Gly
113 180 185 190
115 Arg Tyr Thr Thr Asp Asp Gly Tyr Ile Phe Ser Pro Thr Asp Ile Ile
116 195 200 205
118 Asp Asp Leu Gly Asp Ala Tyr Leu Val Pro His Gly Asn His Tyr His
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131                               275                               280                               285
133 Tyr His Pro Ala Pro Pro Arg Pro Asn Asp Ala Ser Gln Asn Lys His
134                               290                               295                               300
136 Gln Arg Asp Glu Phe Lys Gly Lys Thr Phe Lys Glu Leu Leu Asp Gln
137 305                               310                               315                               320
139 Leu His Arg Leu Asp Leu Lys Tyr Arg His Val Glu Glu Asp Gly Leu
140                               325                               330                               335
142 Ile Phe Glu Pro Thr Gln Val Ile Lys Ser Asn Ala Phe Gly Tyr Val
143                               340                               345                               350
145 Val Pro His Gly Asp His Tyr His Ile Ile Pro Arg Ser Gln Leu Ser
146                               355                               360                               365
148 Pro Leu Glu Met Glu Leu Ala Asp Arg Tyr Leu Ala Gly Gln Thr Glu
149                               370                               375                               380
151 Asp Asp Asp Ser Gly Ser Asp His Ser Lys Pro Ser Asp Lys Glu Val
152 385                               390                               395                               400
154 Thr His Thr Phe Leu Gly His Arg Ile Lys Ala Tyr Gly Lys Gly Leu
155                               405                               410                               415
157 Asp Gly Lys Pro Tyr Asp Thr Ser Asp Ala Tyr Val Phe Ser Lys Glu
158                               420                               425                               430
160 Ser Ile His Ser Val Asp Lys Ser Gly Val Thr Ala Lys His Gly Asp
161                               435                               440                               445
163 His Phe His Tyr Ile Gly Phe Gly Glu Leu Glu Gln Tyr Glu Leu Asp
164                               450                               455                               460
166 Glu Val Ala Asn Trp Val Lys Ala Lys Gly Gln Ala Asp Glu Leu Ala
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178 Leu Thr Gln Ile Ala Phe Ala Glu Gln Glu Leu Met Leu Lys Asp Lys
179                               530                               535                               540
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190 Val Pro Tyr Ser Trp Leu Thr Arg Asp Gln Ile Ala Thr Ile Lys Tyr
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196 His Glu Glu Ser Gly Ser Val Ile Pro Asn Val Thr Pro Leu Asp Lys
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3/16/01

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205 Phe Asp Pro Arg Asp Val Leu Ala Lys Glu Thr Phe Val Trp Lys Asp
206 675 680 685
208 Gly Ser Phe Ser Ile Pro Arg Ala Asp Gly Ser Ser Leu Arg Thr Ile
209 690 695 700
211 Asn Lys Ser Asp Leu Ser Gln Ala Glu Trp Gln Gln Ala Gln Glu Leu
212 705 710 715 720
214 Leu Ala Lys Lys Asn Ala Gly Asp Ala Thr Asp Thr Asp Lys Pro Lys
215 725 730 735
217 Glu Lys Gln Gln Ala Asp Lys Ser Asn Glu Asn Gln Gln Pro Ser Glu
218 740 745 750
220 Ala Ser Lys Glu Glu Glu Lys Glu Ser Asp Asp Phe Ile Asp Ser Leu
221 755 760 765
223 Pro Asp Tyr Gly Leu Asp Arg Ala Thr Leu Glu Asp His Ile Asn Gln
224 770 775 780
226 Leu Ala Gln Lys Ala Asn Ile Asp Pro Lys Tyr Leu Ile Phe Gln Pro
227 785 790 795 800
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236 <210> SEQ ID NO: 3

237 <211> LENGTH: 2379

238 <212> TYPE: DNA

239 <213> ORGANISM: Streptococcus pyogenes

241 <400> SEQUENCE: 3

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244 ggaatgacgt caaacaataa taaaccgatt aaaaaaagca aaaagacaaa caagactcac 180
245 aaagggtgtgg cgggtgtcga ttttcttaca gatgatgggt ttattttaac caaagactca 240
246 aaaatcttat caaaaacaga tcagggaatc gttgttgacc atgatgtgca ttcgcatttt 300
247 attttttatg ccgattttaa ggaagtcca ttgaatacc ttattccaaa aggagcaagt 360
248 ttagctaagc cagctgttgc tcagcgagca gctagtcaag ggacttctaa agtagcagat 420
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284 <210> SEQ ID NO: 4

285 <211> LENGTH: 792

286 <212> TYPE: PRT

287 <213> ORGANISM: Streptococcus pyogenes

289 <400> SEQUENCE: 4

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303 65 70 75
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311 Tyr Leu Ile Pro Lys Gly Ala Ser Leu Ala Lys Pro Ala Val Ala Gln
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317 Tyr Glu Phe Asn Pro Ala Asp Ile Val Ala Glu Asp Ala Leu Gly Tyr
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VERIFICATION SUMMARY

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